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TWO NEW SPECIES OF *IXAMATUS* SIMON FROM EASTERN AUSTRALIA (NEMESIIDAE, MYGALOMORPHAE, ARANEAE)

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ABSTRACT

Two new species of *Ixamatus*—*I. lornensis* has a low, broad tarsal organ; *I. rozefeldsi* has a spinose cymbium—present characters previously unknown and probably plesiomorphic for the genus.

INTRODUCTION

Ixamatus was revised in a two-part study (Raven 1980, 1982) and includes eight species. Some initial confusion between species from eastern Australia and apparently similar species in the south and west resulted in a much wider distribution being ascribed to the genus than is actually the case (see Main 1983). After the second revision, new material of *Ixamatus* was found. Because the changes required in the diagnosis of *Ixamatus* are cladistically noteworthy I have chosen to describe both the species and the changes prior to making a general biogeographical history (in prep.) of *Ixamatus* and other Australian mygalomorphs that have been revised.

The terminology, methods, and abbreviations are consistent with my previous studies and any of the larger studies (e.g., Raven 1982) will provide a full list.

Ixamatus Simon

Ixalus L. Koch 1873:469. Type species by monotypy: *Ixalus varius* L. Koch 1873.
Ixamatus Simon 1887:195 (*nomen novum* for *Ixalus* L. Koch 1873); Raven 1982:1036.

Diagnosis.—*Ixamatus* differs from *Xamiatus* in the absence of plumose hairs on the palpal trochanters of adults, and from the remaining nemesiid genera by the elevated tarsal organ.

Remarks.—A full synonymy and description are given in Raven (1982, 1985). Males described here require two modifications of that description. First, in most species of *Ixamatus*, the tarsal organ is high and raised and the cymbium is not spinose. In contrast, the tarsal organ of *I. lornensis* is short and broad, and the

cymbium of *I. rozefeldsi* is spinose. The cladistic implications will be discussed elsewhere. Suffice it to say here that both of these newly described conditions are plesiomorphic in the Nemesiidae.

Ixamatus lornensis, new species

Figs. 1-7, Table 1

Type.—Holotype male, Lorne State Forest, N. S. W., $31^{\circ}35' S - 152^{\circ}38' E$ (11.v-19.vi.1978, D. Milledge), Australian Museum No. KS 1562.

Diagnosis.—Differs from *I. caldera* Raven by the low tarsal organ, spinose cymbium, and the absence of megaspines on tibia I. Medium-sized spiders, carapace ca. 5-6 long. Dorsal abdomen anteriorly mottled. Maxillary serrula group of about 15 low teeth. Tibia I of male unmodified; metatarsus I with slight retrolateral excavation proximally; palpal bulb spherical with short embolus, tarsus with several distinct spines apically. Tarsal organ low, broad. Female unknown.

Etymology.—The specific epithet refers to the type locality.

Description.—Holotype male. Carapace 5.69 long, 4.63 wide. Abdomen 5.00 long, 2.88 wide. Total length 11.88.

Color in alcohol: carapace, chelicerae, and legs orange brown; abdomen dorsally brown with white mottling anteriorly forming two irregular lines, ventrally almost entirely white with brown areas medially.

Carapace: fovea broad, slightly procurved; lateral margins with silver hairs on dorsal coxae, caput, and interstrial ridges; sparsely clothed; 3 pairs of foveal bristles. Eyes: tubercle low but distinct; group 0.4 of head-width, 1.82 times wider than long; back row recurved; ratio MOQ back width: front width: length, 35:26:23; ratio AME:ALE:PME:PLE, 11:10:7:8; eye interspaces: AME-AME, 4; AME-ALE, 1; PME-PLE, 1; ALE-PLE, 1. Chelicerae: with brown bristles and silver hairs on prodorsal surface; 2 depressions in anterolateral surfaces; promargin of furrow with 12 teeth; basally with 8 fine teeth.

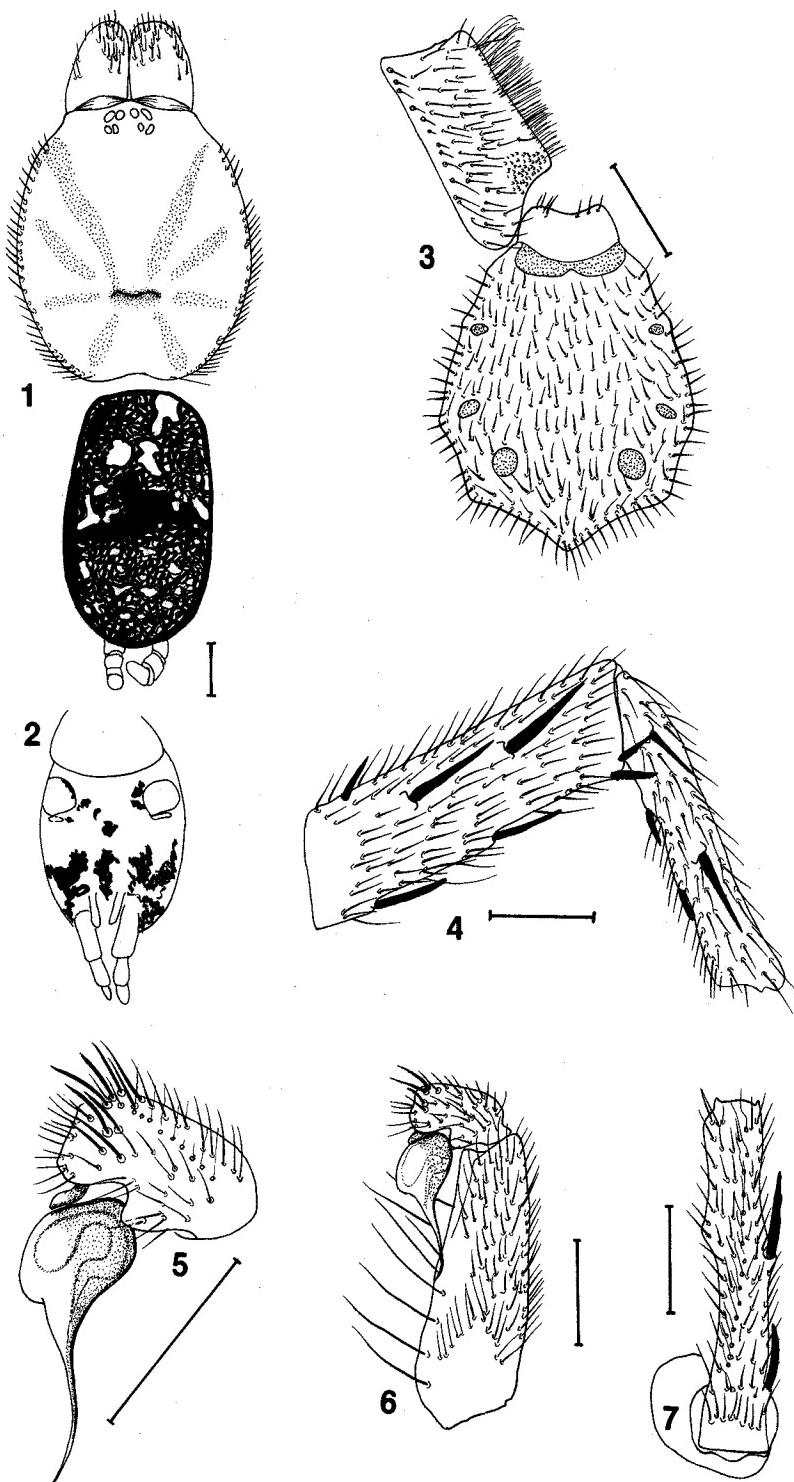
Maxillae: front length, 1.56; back length, 2.16; width, 1.04, with about 40 blunt cuspules on inner mound; serrula consisting of about 15 low teeth. Labium: 1.08 wide, 0.48 long. Sternum: 2.92 long, 2.44 wide; shape, length, and distance from margin of sigilla: posterior, oval, 0.32, 0.28; middle, oval, 0.20, 0.08; anterior, circular, 0.12, 0.04.

Palp: bulb spherical; embolus short; with eight spines and three stout bristles on apical tarsi.

Legs: (Table 1). 1423; tibia I unmodified; metatarsus I with slight retrolateral excavation and mid-distal retrolateral cuticular point; retroventral metatarsus IV

Table 1.—Leg measurements of *Ixamatus lornensis*. Values are for holotype male.

	I	II	III	IV	Palp
Femur	4.75	4.06	3.69	4.63	3.13
Patella	2.81	2.19	1.94	2.06	1.61
Tibia	3.31	2.69	2.06	3.25	2.56
Metatarsus	3.19	2.94	3.19	3.81	-
Tarsus	1.63	1.50	1.56	1.88	1.00
Total	15.69	13.38	12.44	15.63	8.30



Figs. 1-7.—*Ixamatus lornensis*, holotype male: 1, carapace, chelicerae, and abdomen, dorsal view; 2, abdomen and spinnerets, ventral view; 3, sternum, maxilla, and labium; 4, tibia and metatarsus I, prolateral view; 5, bulb and cymbium, retrolateral view; 6, palpal bulb, cymbium, and tibia, retrolateral view; 7, metatarsus I, dorsal view. All scale lines = 1 mm.

with two close setae-like preening combs; silver hairs on femora I-IV; scopulae entire but thin on metatarsi and tarsi I. Spines: no spines on leg tarsi. First leg: femur, pl d4; patella, p2; tibia, p2 d1 v9; metatarsus, p2 v4. Second leg: femur, p2 d3; patella, p2; tibia, p2 v8; metatarsus, p3 v7. Third leg: femur, p3 d3 r3; patella, p2 r1; tibia, p2 d1 r2 v6; metatarsus, p5 r3 v7. Fourth leg: femur, p3 r3; patella, r1; tibia, p2 d1 r2 v7; metatarsus, p3 d1 r3 v9. Palp: femur, pl d3; patella, p1; tibia, p1 v2; tarsus, 9 apical. Claws: STC of legs I, II with 10 teeth in each of two rows; STC of legs III, IV with 8-9 teeth per row; ITC without teeth. Trichobothria: two rows, each of 9 for full length of tibiae; 12 on metatarsi; 18 on tarsi; tarsal rod low, broad.

Spinnerets: PMS 0.23 long, 0.18 wide, 0.40 apart; lengths of basal, middle, apical, and total segments of PLS, 1.05, 0.93, 1.18, 3.16, respectively.

Distribution and Habitat.—*Ixamatus lornensis* is known only from the rainforest of Lorne State Forest, New South Wales.

Material Examined.—Only the type.

Ixamatus rozefeldsi, new species

Figs. 8-14, Table 2

Type.—Holotype male, Byfield near Rockhampton, Q., 22°51'S — 150°39'E (27.vi.1982, A. Rozefelds). Queensland Museum No. S1314.

Diagnosis.—Differs from all other *Ixamatus* species by the distinct process on retrolateral metatarsus I of males. Large spiders, carapace ca. 8 long. Dorsal abdomen with large white area anteriorly. Maxillary serrula absent. Tibia I of male with three large megaspines on raised bases; metatarsus I with excavation proximal to retrolateral cuticular process; cymbium not spinose; bulb pyriform with short embolus. Female unknown.

Etymology.—The specific epithet in a patronym in honor of Mr. Andrew Rozefelds, an enthusiastic and fearless collector of mygalomorphs.

Description.—Holotype male. Carapace 8.25 long, 8.13 wide. Abdomen 9.70 long, 6.00 wide.

Color in alcohol: carapace, chelicerae, and legs red brown; abdomen dorsally brown with large white area anteriorly and three pairs of irregular areas forming broken chevrons, ventrally cream with brown areas between PMS and laterally.

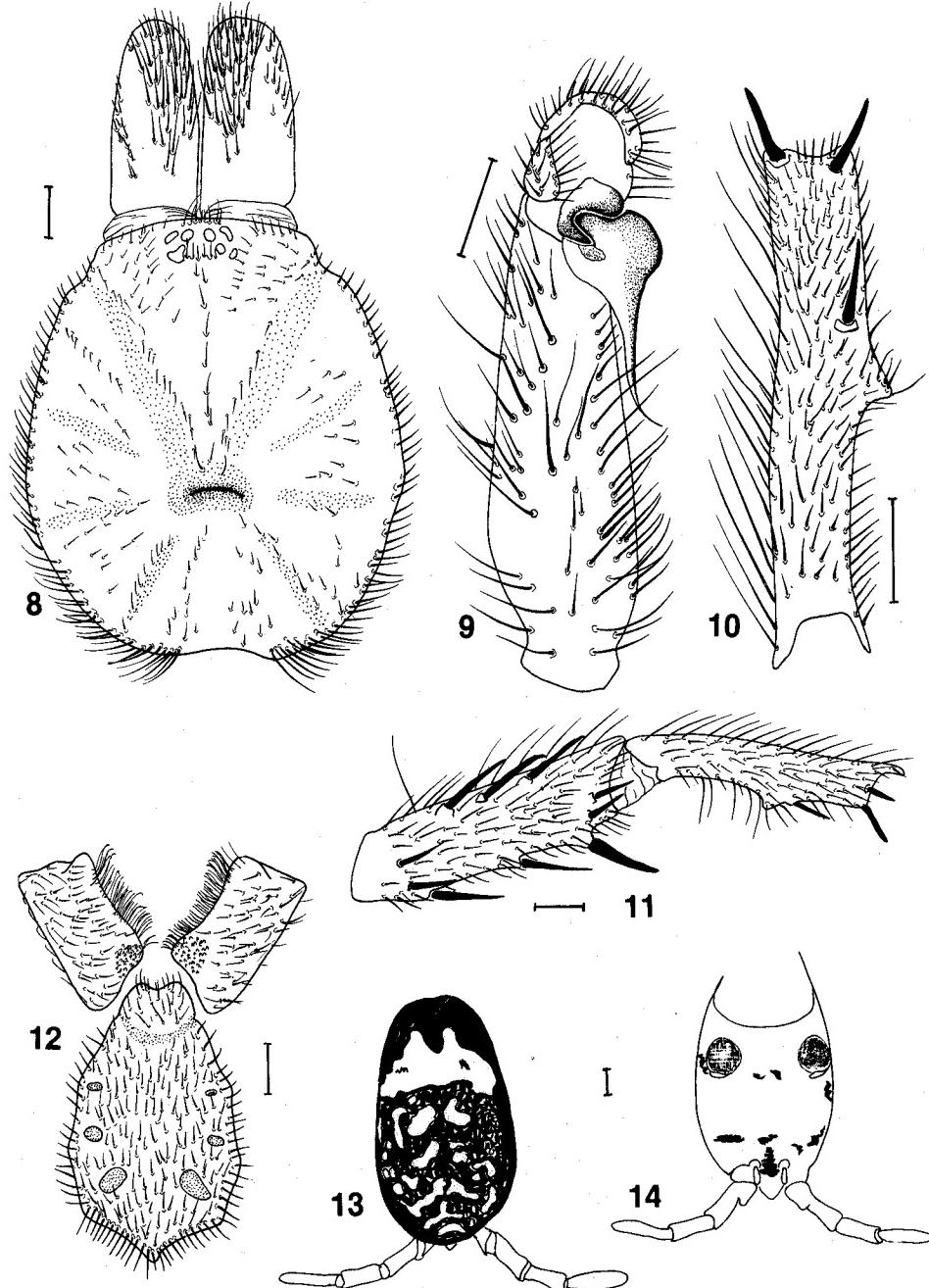
Carapace: fovea deep, recurved; several paired bristles in front of fovea; uniformly covered with black bristles and pile of silvery hairs on interstrial ridges and caput. Eyes: tubercle low but distinct; group 0.31 of head-width, 2.07 times wider than long; back row slightly recurved; ratio MOQ back width: front width: length, 44:31:26; ratio AME:ALE:PME:PLE, 13:14:9:12; eye interspaces: AME-AME, 8; AME-ALE, 2; PME-PLE, 3; ALE-PLE, 3 (PME and PLE of one side

Table 2.—Leg measurements of *Ixamatus rozefeldsi*. Measurements are for holotype male.

	I	II	III	IV	Palp
Femur	8.13	7.19	6.69	8.25	5.00
Patella	4.44	4.06	3.38	3.88	2.69
Tibia	5.38	4.75	4.19	6.31	3.94
Metatarsus	5.56	5.00	5.31	7.06	-
Tarsus	2.94	2.75	2.63	3.13	1.75
Total	26.45	23.75	22.02	28.63	13.38

fused). Chelicerae: with silver hairs and long black bristles; promargin of furrow with 11 teeth; basally with 8 fine teeth.

Maxillae: front length, 2.48; back length, 3.52; width, 1.60, with about 50 stout, pointed cuspules on inner edge; serrula absent. Labium: 1.52 wide, 1.04 long.



Figs. 8-14.—*Ixamatus rozefeldsi*, holotype male: 8, carapace and chelicerae, dorsal view; 9, palpal bulb, cymbium, and tibia (right), ventral view; 10, metatarsus I (right), ventral view; 11, tibia and metatarsus I, prolateral view; 12, sternum, maxillae, and labium; 13, 14, abdomen and spinnerets, dorsal view (13), ventral view (14). All scale lines = 1 mm.

Sternum: 4.88 long, 3.56 wide; all sigilla oval. Length and distance from margin of sigilla: posterior, 0.63, 0.40; middle, 0.40, 0.28; anterior, 0.15, 0.20.

Palp: bulb pyriform with short embolus.

Legs: (Table 2). 4123; tibia I with 3 large megaspines on raised bases, most distal thickest; metatarsus I with excavation proximal to retrolateral cuticular process; preening combs absent; scopulae on tarsi I, II; fine brown hairs on femora; no modified hairs anywhere. Spines: no spines on leg tarsi. First leg: femur, p2 d2; patella, p1; tibia, p3 v7; metatarsus, v3. Second leg: femur, p3 d2; patella, p2; tibia, p2 v8; metatarsus, p1 v7. Third leg: femur, p1 d3 r2; patella, p1 r1; tibia, p2 r2 v7; metatarsus, p2 r1 v8. Fourth leg: femur, p3 r2; patella, 0; tibia p2 r3 v7; metatarsus, p2 r2 v8. Palp: femur, p2; patella, 0; tibia, v1; tarsus, 0. Claws: STC with 10 teeth in each of two rows; ITC without teeth. Trichobothria: two rows, each of 11 extending to $\frac{3}{4}$ length of tibiae; 16 in straight line on metatarsi; 23 in slightly irregular line on tarsi; tarsal rod large, elevated, distal.

Spinnerets: PMS 0.96 long, 0.32 wide, 0.88 apart; lengths of basal, middle, apical, and total segments of PLS, 2.40, 1.88, 2.80, 7.08, respectively.

Distribution and Habitat.—*Ixamatus rozefeldsi* is known only from Byfield, near Rockhampton, Queensland. The holotype was found in a small temporary web under a log in a gully that is part of a small area of low "poor" rainforest.

Material examined.—Only the type.

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